

**Nebraska Information Technology Commission
Community Technology Fund 2002**

Application Form

Project Title: Interactive Video/Distance Learning Network

Submitting Entity: Valley County Hospital

Grant Amount Requested: \$19,623

Project Contact Information: (Name, address, telephone, fax, and email address):

Vicki Bauer
Executive Director
Valley County Hospital Foundation
1518 J Street
Ord, NE 68862
Telephone (308) 728-3011 Fax (308) 728-3011
vchf@nctc.net

Executive Summary

The proposed interactive video/distance learning center project can be described as a fiber optic based, full-motion, interactive video connection to virtually anywhere in the world with a dial-up connection. The interactive video has been identified as the most effective and efficient technology by the Heartland Health Alliance, the largest hospital network in the State of Nebraska, of which Valley County Hospital is a member. Valley County Hospital, along with other rural hospitals in Nebraska is continuously challenged to provide quality and affordable health care to our residents. This type of technology would allow connectivity to similar resources available in urban areas. These resources would enable residents and providers of our communities to receive additional access to medical and educational programming that is not currently available to them locally or regionally. In addition, the learning center would provide many educational opportunities including the LPN to RN program, and special training in the areas of medical technology, radiological technology, respiratory therapy and pharmacy technology.

This project is of great importance to the Valley County Economic Board, the Greater Loup Valley Activities, Inc., and the Ord Public Library (co-partners) as it would be a key component of the economic development efforts in Valley County and the surrounding communities. This project is extremely important for the advancement of

technology and educational opportunities that would be made available to area businesses, students, and many other sectors of our different communities.

Goals, Objective, and Outcome

Describe the project, including:

Problem statement and needs assessment

The interactive video/distance learning center project, described as a fiber optic based, full motion, interactive video connection to virtually anywhere in the world with a dial up connection would enable Valley County Hospital to enhance the quality of health care for rural residents by making medical expertise available 24 hours a day, 7 days a week for primary care physicians. It will provide educational programming opportunities that until now have only been available by traveling a great distance.

Valley County Hospital, along with other rural hospital in rural Nebraska, is continuously challenged to provide quality and affordable healthcare to residents. The challenge of the critical shortage of medical professionals, lack of local educational opportunities for patients and providers, a depressed rural economy, lengthy travel distance between patients and providers and limited access to telecommunications and limited financial resources are having a significant impact on quality of care to patients.

With limited financial resources and a shortage of medical professionals it is difficult and sometimes impossible to justify sending staff outside of the rural community to access the needed training, when time away from work impacts quality of care provided to patients.

In addition to medical and education programming, Valley County Hospital and the Heartland Health Alliance will collaborate with our community partners, Valley County Economic Development Board, (Chamber of Commerce), Greater Loup Valley Activities, Inc. and the Ord Library to make available the interactive video system available for other community business and educational needs.

Goals

To enhance quality of care to our residents

To recruit and retain medical providers in our rural community

Provide educational opportunities to help retain and promote our healthcare professionals.

To increase the technological capabilities in this area of rural Nebraska to attract and retain residents, which is a key component in economic development.

To recruit and retain our current workforce by providing them with needed educational opportunities to strengthen their skills and education level.

Project activities or outputs (specific, measurable steps to get to the goal—i.e., offering six sessions of classes). Include training and staff development activities if appropriate.

By making the expertise medical assistance available to primary care physicians, for example, radiologists available to primary care physicians 24 hours a day, 7 days a week within 30 minutes of radiology consult request. Currently the wait time may be from 1 1/2 to 3 hours in an emergency situation or 1-4 days in a non-emergency situation. By being able to offer this service the project will prevent unnecessary potential loss of life, avoid adverse patient outcomes, avoid unnecessary procedures and treatments, reduce the length of hospital stays and reduce needless transportation of patients.

Having the ability of offering telehealth and interactive video distance learning allows for clinical and professional development for medical professionals. It is imperative that our health care professionals enhance and improve professional skills through continued education, training, and information sharing.

Some of the programming opportunities currently available to rural hospital in Nebraska include: Bryan School of Nursing LPN to RN Distance Learning Program and Allied Health courses, Education and Resource Center; Diabetes Education; Chest Pain and Cardiac Program; clinical and professional development for medical professionals and nurses. Additional programming from Creighton, Methodist and UNMC. The Heartland Health Alliance and its Education Staff and Education Committee will continue working with BryanLGH Medical Center to offer access to other medical and educational programming opportunities. By offering these programs it enables our current staff to raise their skill level without leaving the community and their families and would still be able to work while furthering their education. This also enables us to offer education programs to the community in which we are hopeful to recruit to help our staffing shortage. These programs would be under the direction of the Education Department of Valley County Hospital.

In addition to medical and educational programming for Valley County Hospital, Heartland Health Alliance will collaborate with the Economic Development Board, Chamber of Commerce, banks, the library and businesses to make the interactive video system available for other community educational needs. Such opportunities include workshops and seminars provided by NPPD, Nebraska Bankers Association, and the Nebraska State Bar Association. These will be scheduled through the Economic Development office. In today's information based society, courses are being offered all over the world for the convenience of potential students. This technology is a key component in economic development for our community and plays an important part in attracting residents to our communities.

Expected outcomes (impact on the project's beneficiaries)

The interactive video/distance learning will enhance our ability to continue with our mission to provide high quality health care services for our community and outreach area. There will be assistance to primary care physicians to allow more complete information on which to base decisions regarding patient care. Being able to offer clinical and professional development for medical professionals and nurses would help in retention and recruitment of health professionals, therefore addressing the issue of shortage of health care professionals.

We would also increase our accessibility to community outreach programs such as 55Plus and educational programs on diabetes for patients and providers.

Availability of the interactive video/distance learning will increase access to education opportunities, which will in return, increase the value and knowledge of our workforce, while significantly reducing the cost for travel and time away from work. The interactive video/distance learning will also serve as business recruitment tool used as a training resource.

Potential beneficiaries of this project include those people that would rather drive to Ord for educational opportunities because it is closer than other communities that provide this opportunity, resulting in many deliverable degreed programs. The population of Valley County is 4467 according 2000 Census Bureau, however, our servicing area includes neighboring counties of Custer, Loup, Garfield, Wheeler, Greeley, Howard, and Sherman.

Project Justification

2. Explain how the proposed project supports one or more of the funding priorities by describing how the project:

Uses information technology to address community needs in innovative ways or initiates the use of information technology to address community needs

Demonstrates strong collaboration with a community or region in addressing IT development.

The innovation of this project lies with the cooperative effort of the Heartland Health Alliance and Valley County Hospital to come together to implement interactive video in our community and to collaborate on accessing medical and educational programming to improve the quality of medical care for their patients and providers.

Also innovative is Valley County Hospital and Heartland Health Alliance's approach to share the use of the interactive video learning center with local organizations who are also dealing with limited financial resources for time and travel for their training needs. Access to in the interactive video learning center will be made available to all persons from public and private entities. The system will be reliable and responsive to the specific needs of various sector of the community. Local businesses have collaborated with the Valley County Hospital and the Economic Development Board to share information and partner on this project and many future projects.

3. Describe the expected benefits (both tangible and intangible) of the proposed project. If applicable, include any economic benefits or long-term cost savings.

The overall benefits to being a part of an interactive video system are convenience and cost savings. The interactive video/distance learning center is designed to provide local access to medical and educational programming opportunities and to decrease costs associated with travel and time away from work and home.

The Heartland Health Alliance lends their expertise to Valley County Hospital and our community in their support and commitment. HHA is confident that bringing medical and education programming into a community, as opposed to sending staff outside of the community will result in cost savings to the rural hospital and community.

There will be many more educational opportunities for residents in Central Nebraska. Area businesses will have numerous options in continued workshops for their employees. Fewer residents will be leaving town for education opportunities, therefore less money will be spent out of town. Our workforce will be more knowledgeable and have improved work skills will make be attractive to existing and potential businesses.

Technical Impact

4. Describe the hardware, software, and communications needed for this project and explain why these choices were made.

This system is an analog based two way interactive video system that uses a dedicated single mode fiber optic network connecting hospitals that belong to the Heartland Health Alliance. Broadband Networks, Inc makes the system. and uses their Edcomm software for scheduling and control. The technology is provided by Galaxy Cable's Network Services Division. The Galaxy fiber optic is also capable of carrying up to 100 Mbps of Ethernet based data. The HHA system is connected to a gateway that uses a PictureTel Concord for connecting the system to any dial up system around the world. A classroom equipment package that includes two cameras, two microphones, one 27 inch monitor, one VCR, one Echo Canceler and one Fiber Code. When designing its interactive video system, HHA investigated all options for connectivity and chose to connect HHA rural hospitals to fiber optic cable where financially feasible. HHA determined that a fiber

optic connection is the most effective, dependable, cost efficient, and sustainable technology to connect rural hospitals for interactive video programming, data transmission and for future telemedicine consults.

5. Address any technical issues with the proposed technology including:

Conformity with generally accepted industry standards. Projects which interface with other state systems (such as distance learning systems) should also address NITC technical standards and guidelines.

This system conforms to and meets all appropriate standards and guidelines.

Compatibility with existing institutional and/or statewide infrastructure.

Using the PictureTel gateway this system is compatible with statewide infrastructure. It has worked with NCVN and weekly connects with the UNMC system.

Reliability, security and scalability (future needs for growth or adaptation).

This system has proved highly reliable and Galaxy has shown superb customer service in addressing maintenance and repair needs. Security is assured in that this is a closed system and even when using the gateway for reaching outside the network security is high. This system can be expanded at anytime and will, as technology improves, migrate to an IP video solution.

6. Describe how technical support will be provided.

The technical support is under the direction of Mr. Bruce Thiel, Education Specialist, BryanLGH Medical Center. Mr. Thiel is the coordinator for the equipment and set-up in this project. He will be in charge of ordering all equipment and the initial design and engineering of the network. Mr. Thiel will be responsible for network facilities and electronics, full system setup and testing as well as initial user training. Maintenance of the network is Galaxy's responsibility and covered by the monthly cost. Classroom equipment maintenance is covered by warranty at first and then is either covered by the owner or by a maintenance contract with Galaxy.

7. Describe the project sponsor(s) and stakeholder acceptance.

Valley County Hospital, through collaboration with the Heartland Health Alliance, is the project sponsor. Valley County Hospital is a Critical Access Hospital with an attached 70-bed nursing home. Valley County Hospital's mission is to provide high quality health care service at all times in a caring and professional manner and promote those services throughout our service area. Valley County Hospital is under the administration of Phil

Lowe, CEO and governed by a five-member board of community leaders appointed by Valley County Board of Supervisors.

The community co-partners are Valley County Economic Development Board, Great Loup Valley Activities, Inc., Chamber of Commerce and the Ord Public Library. This group of community leaders are enthusiastic about the positive effect of a fiber optic learning center will have in this area of Central Nebraska. They recognize the importance of developing our workforce to meet the needs of existing and potential businesses and see the need for additional educational opportunities.

8. Describe the project team, including their roles, responsibilities, and experience.

The project team includes:

Education Specialist- Mr. Bruce Thiel, Bryan LGH Medical Center, over 25 years experience as a producer in educational telecommunications; is the coordinator for the equipment and set-up in this project. He will be in charge of ordering all equipment and the initial design and engineering of the network.

The project director is Phil Lowe, CEO, Valley County Hospital. His qualifications are 22 years in healthcare management. Key people in the management team are 1) Joyce Seward, RN, Education Specialist. Joyce has 30 years in nursing and education; 2) Julie Foth, Radiology Manager with 22 years experience; 3) Don Williamson, CFO, 26 years experience; 4) Victoria Bauer, Executive Director, 19 years in management and finance, 5) Bethanne Kunz, Executive Director, 2 years experience, Economic Development Board and Chamber of Commerce. Bethanne Kunz would be the community project coordinator. These key people will be responsible for carrying out the major tasks of the project.

The management team will oversee the project, develop policies and procedures. An advisory committee will monitor usage and compile reports for the assessment requirements.

9. List the major milestones and a timeline for completing each milestone.

Milestone: We are awarded. Preparation begins.

June 2002-September 2002

- Place order for equipment

- Publicity program put in place

- Begin coordination with area businesses and colleges for January 2003

- Begin Staff training

October 2002-December 2002

- Acquire equipment and begin system set-up

- Staff training with equipment

Finalize coordination with area colleges for Spring 2003 classes

Milestone: Project Launch and Midpoint

January 2003-March 2003

Inform entities to begin assessments and measurements

Schedule workshops for the quarter

Review training of staff

Assessment of usage and scheduling

April 2003-June 2003

Begin collection of information for final report to NITC

Survey users of learning center for measurement and assessment

Continue coordination of with area colleges for summer and fall offerings

Continue with workshop schedules

Continue with Publicity Program

Final survey performed (including medical staff and businesses)

Milestone: Project Completion

June Send final project report to NITC

10. Describe how the project will be sustained.

Valley County Hospital and other local business will sustain the video/distance learning center through teleconferencing revenues generated from the use of the center.

11. Describe the project's evaluation plan, including measurement assessment methods that will verify project outcomes.

The project's evaluation plan includes an advisory committee under the staff direction of a newly created Information System position at Valley County Hospital beginning summer of 2002 that would evaluate in accordance with HHA guidelines.

The advisory committee would evaluate through medical staff, CQI (Continuous Quality Improvement Committee) with the final evaluation by the Board of Directors. The community evaluation component would involve the Board of Directors of the Economic Development Board, Chamber of Commerce, Ord Library Education Specialist and City and County leaders.

Financial Analysis and Budget

	CTF Grant Funding	Cash Match (5)	In-Kind Match (6)	Other Funding Sources (7)	Total
Personnel Costs(1)			\$46,000		\$46,000
Contractual Services(2)	\$7,700				\$7,700
Capital Expenditures(3) (Hardware, Software, Etc.	\$11,923	\$3800		\$30,277	\$46,000
Supplies and Materials					
Telecommunications					
Training					
Travel					
Other Costs					
TOTAL	\$19,623	\$3,800	\$46,000	\$30,277	\$99,700

Match Percent 50%

Financial Narrative Notes and Instructions

Several categories require further itemization.

- 1. Please include estimated number of hours or full-time equivalent (FTE) by position. Include separate totals for salary and fringe benefits. If it is necessary to itemize on a separate sheet include only the subtotal in this table.**

	Hours /wk	Weeks/yr	Total/hrs
Project Leader	10	15	150
Mgt Team Leader	25	45	1125
Mgt Team	10	12	120
Educational Spec.	20	26	520

Community Cor.	10	12	120
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Salary (combined 40,000) Benefits (6,000) \$46,000

2. Please itemize other contractual expenses on separate sheet.

\$6,000 line charge for one year

\$1200 40 hours @ \$30 to contract with BryanLGH Medical Center Multi-media and Teleheath service manager to to implement interactive video

\$500 mileage, meals and lodging contract with Bryan LGH Telehealth Service Manager (3 trips)

3. Please itemize capital expenditures by categories (hardware, software, network, and other) on a separate sheet.

Hardware Acquisition includes:

Luxor Mobile Cart 32”w. 24”d, 59.5”h

Panasonic VHS Recorder/player

Audio-Technics Instructor Lavalier Wireless Microphone

Audio-Technics Student Handheld Wireless Microphone

Audio-Technics Tapered, slip-in microphone clamp

Coherent Echo Canceller and rack mount

Atlas/Sondolier Speakers (pair)

IRP Speaker Amplifier

Middle Atlantic 28” Equipment Rack

Phillips 27” Monitor

Sony Panoramic/Tilt/Zoom with Tracking

Sony Wide Angle Adapter Lens

Tech Electronics VCR Control Module

Tech Electronics VCR Control Cable

BNI Cart Control Package

Install & Training

Total Hardware Cost \$12,000

Network Costs include:

Network costs include upfront charges, including initial design and engineering of the network. These changes also cover network facilities and electronics, full system setup and testing as well as initial user training.

Total Network costs \$34,000

4. Please itemize other operating expenses on a separate sheet.

Not applicable to this project.

5. Please indicate the source of any cash match.

Valley County Hospital committed a cash match to this project.

6. Please indicate the source of any in-kind match and how it will be documented.

The in-kind match will be documented through internal payroll documentation.

7. Please provide a breakdown of any other external funding sources. Sources of external funds may include grants from federal agencies or private foundations.

Valley County Hospital was part of the USDA Rural Utilities Service grant that funded in 2001. The total amount received was \$30,277.